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10 Attorneys for Plaintiff-Counterdefendant

11   UNITED STATES DISTRICT COURT

12   FOR THE NORTHERN DISTRICT OF CALIFORNIA

13   SAN FRANCISCO DIVISION

14

3COM CORPORATION,	Case No. C 03-02177-VZW
Plaintiff-Counterdefendant,	NOTICE OF MOTION AND MOTION FOR SUMMARY JUDGMENT OF INFRINGEMENT OF U.S. PATENT NOS. 5,434,872; 5,732,094; 5;307;459; AND 6,526,446
v.	
REALTEK SEMICONDUCTOR CORPORATION,	Date: December 20, 2007
Defendant-Counterclaim Plaintiff.	Time: 2:30 p.m.
	Courtroom: 6
	*********************
	REDACTED VERSION
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AN UNREDACTED VERSION OF THIS DOCUMENT HAS BEEN FILED UNDER SEAL
                            WITH THE COURT

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1   **<u>NOTICE OF MOTION</u>**

2   TO DEFENDANT HEREIN AND ITS ATTORNEYS OF RECORD:

3   PLEASE TAKE NOTICE that on December 20, 2007 at 2:30 p.m. in Courtroom 6

4   of the above-entitled Court, or as soon thereafter as counsel may be heard on this matter, Plaintiff

5   3Com Corporation ("3Com") will move pursuant to Federal Rule of Civil Procedure 56 for an

6   order granting summary judgment that Defendant Realtek Semiconductor Corporation ("Realtek")

7   infringes at least claim 21 of U.S. Patent No. 5,434,872 (the "'872 Patent"); claim 28 of U.S.

8   Patent No. 5,732,094 (the "'094 Patent"); claim 1 of U.S. Patent No. 5,307,459 (the "'459"

9   Patent"); and claim 26 of U.S. Patent No. 6,526,446 (the "'446 Patent") (collectively, the "Claims

10   at Issue").

11   This motion is based on this Notice of Motion, the accompanying Memorandum of

12   Points and Authorities in Support of 3Com's Motion for Summary Judgment of Infringement of

13   U.S. Patent Nos. 5,434,872; 5,732,094; 5,307,459; and 6,526,446, the accompanying Declarations

14   of Dr. Michael Mitzenmacher ("Mitzenmacher Decl.") and Victor Cole ("Cole Decl."), and any

15   such additional matter as may be presented to the Court in conjunction with the hearing on this

16   motion.

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1   **PRELIMINARY STATEMENT**

2   Founded in 1979, 3Com is the acknowledged pioneer in Ethernet network adapter

3   products. Its extensive investments in research and development and the resulting innovations it

4   has introduced to the field are reflected in the hundreds of patents it has been awarded.[1] Among

5   those are the patents at issue in this case. For many years, 3Com also enjoyed a leading market

6   position in the sale of network interface cards incorporating its cutting-edge technology. In

7   particular, one of its first Fast Ethernet products embodying the patents in suit was "far and away

8   the largest-selling Ethernet adapter that had been released for that and for the next several years."

9   Cole Decl. Ex. 1 (Sherer Tr.) at 90. Over time, however, its market share began to erode as it

10 faced increased competition, much of it from lower-cost manufacturers.[2]

11   Starting in 1997, Realtek embarked on an aggressive strategy to enter the market

12 for Fast Ethernet network interface controllers to be included in products that would compete with

13 3Com's. *See* Cole Decl. Ex. 2 (1998 Realtek Annual Report) at 11 (RT070660). Based in

14 Taiwan, Realtek chose to infringe 3Com's patents and now holds, by its own admission, more

15 than 40% of the worldwide market. Cole Decl. Ex. 3 (Tsai, B. Tr.) at 116–17. After 3Com sought

16 to protect its valuable intellectual property rights by commencing this action against one of

17 Realtek's customers in the District of Delaware in January 2003, Realtek intervened. 3Com then

18 asserted the patents at issue directly against Realtek and its products.

19   Since this case was originally filed, and following extensive and often difficult

20 discovery, 3Com has streamlined its claims against Realtek for trial.[3] 3Com now asserts that

21 Realtek is infringing ten separate claims of five 3Com patents. Of these, we have selected the four

22 Claims at Issue in this motion as, we respectfully submit, ripe for summary adjudication

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[1]   *See* 3COM Corp., Annual Report (Form 10-K), at 13, 15 (July 31, 2007), *available at*
24   http://www.sec.gov/Archives/edgar/data/738076/000095013507004539/b659553ce10vk.ht
        m.

25 [2]
        See Marguerite Reardon, *3Com Lowers Revenue Forecast*, CNET News.Com, *at*
26   http://news.com.com/2102-1037_3-5346936.html (Sept. 3, 2004).

27 [3]   3Com did not include any claim of U.S. Patent Nos. 6,115,776 and 6,327,625 in its Final
        Infringement Contentions. 3Com also subsequently informed Realtek that it is no longer
        asserting infringement of claims 1 and 39 of the '094 Patent.
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1   concerning the issue of Realtek's infringement. The parties do not dispute the material facts

2   concerning how the accused products operate with respect to the Claims at Issue. To the contrary,

3   Realtek has admitted that its products include or are capable of practicing all the elements of two

4   of these claims, and most of the elements of the other two. The only disputes concerning the

5   Claims at Issue are about the conclusions to be drawn from those facts or, at bottom, new and

6   idiosyncratic claim construction arguments that Realtek has belatedly raised purely for purposes of

7   trying to avoid infringement. We respectfully submit that the Court may readily resolve any such

8   issues in the course of deciding this motion and, as we demonstrate below, should enter summary

9   judgment of infringement in 3Com's favor with respect to each of the Claims at Issue.

STATEMENT OF FACTS

I.   The Claims at Issue

A.   The '872 Patent

United States Patent No. 5,434,872, entitled "Apparatus for automatic initiation of data transmission," was filed on July 28, 1992 and issued to 3Com on July 18, 1995. Cole Decl. Ex. 4 ('872 Patent). The '872 Patent relates to Ethernet network interface adapters, a type of device enabling communication between a computer and an Ethernet network. *See* Mitzenmacher Decl. ¶ 21.

As the Court is aware,[4] a typical Ethernet network adapter includes two ports (one to connect to the host computer and another to connect to the network), a buffer memory, and a control logic. *Id.* at ¶ 16. Commonly referred to as a "Network Interface Controller" or NIC, the adapter may be mounted on a card (a "NIC card") that is inserted into an expansion slot located on the motherboard of a desktop computer, or integrated into the motherboard itself. *Id.* The adapter communicates with the host processor over a bus, such as a PCI bus, and with the network over a twisted pair cable. *Id.* Ethernet NICs transmit data by using frames of lengths varying from 64 to 1518 bytes, with each frame having a header containing the addresses of the source and destination stations on the network, a payload of data, and a trailer containing error correction

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[4]   *See* Dkt. No. 375 (Claim Construction Order) at 6, 19.

1   data. *Id.* The minimum and maximum lengths of an Ethernet frame or "packet" are determined

2   by the Ethernet network protocol. *See id.* at ¶¶ 15, 29.

3   Claim 21 of the '872 Patent is an apparatus claim, which discloses and claims an

4   Ethernet network adapter that initiates early transmission of data frames. *Id.* at ¶¶ 21–22.

5   According to the '872 Patent, a network interface adapter may begin transmitting a frame to an

6   Ethernet network as soon as a threshold portion of the frame is transferred from the host computer

7   into the adapter's memory. *Id.* While the adapter transmits the threshold portion of the frame to

8   the network, the rest of the frame is transferred to the adapter and becomes available for

9   transmission. *Id.* Because the adapter begins transmission to the network before the transfer of the

10   full packet into its memory, this technology is also referred to as the "Early Transmit" feature. *Id.*

11   By using parallel or concurrent processing in this manner, the Early Transmit

12   technology may increase transmission speed and optimize performance of Ethernet network

13   adapters by as much as 150%. *Id.* at ¶ 23. Importantly, the Early Transmit technology improves

14   performance without requiring a faster and more expensive host or NIC processor. Network users

15   may therefore enjoy a significant increase in performance simply by using network adaptors

16   implementing this innovative technology. *Id.* at ¶ 24. These advantages made the Early Transmit

17   technology a core feature of 3Com Ethernet adapters. *Id.* Indeed, 3Com considered these

18   advantages sufficiently important and distinctive to register the trademark PARALLEL TASKING

19   for use with its NIC products. Cole Decl. Ex. 5 (PARALLEL TASKING Registration). This

20   trademark was prominently displayed on those NIC products. *See* Appendix A hereto. A press

21   release described the technology at the time of its introduction as "a unique process that speeds

22   data transfers . . . resulting in the highest overall adapter efficiency and performance."[5]

23   **B.   The '094 Patent**

24   United States Patent No. 5,732,094, entitled "Method for automatic initiation of

25   data transmission," was filed on September 16, 1996 and issued to 3Com on March 24, 1998.

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27   [5]   Press Release, 3Com Corporation, 3Com increases performance and ease-of-use for
      market-leading EtherLink III family of adapters, *available at*
28   http://findarticles.com/p/articles/mi_m0EIN/is_1994_Nov_7/ai_15903033 (Nov. 7, 1994).

1   Cole Decl. Ex. 6 ('094 Patent). It claims priority to an earlier application filed on July 28, 1992.

2   Like the '872 Patent, the '094 Patent relates to data transmission in Ethernet networks.

3   Mitzenmacher Decl. ¶ 26. For example, the '094 Patent discloses and claims methods to initiate

4   early transmission of data, which increase transmission speed and optimize the performance of

5   network adapters. *Id.* Claim 28 of the '094 Patent is a method claim that essentially covers the

6   use of the network interface adapter apparatus described in Claim 21 of the '872 Patent. *Id.*

C.   The '459 Patent

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8   United States Patent No. 5,307,459, entitled "Network adapter with host indication

9   optimization," was filed on July 28, 1992 and issued to 3Com on April 26, 1994. Cole Decl. Ex. 7

10 ('459 Patent). The '459 Patent also relates to data transmission systems for use in Ethernet

11 network interfaces. Mitzenmacher Decl. ¶ 15. For example, the '459 Patent describes and claims

12 Ethernet network adapters that generate early indication signals to reduce what is known as

13 "interrupt latency." *Id.* at ¶ 17.

14   When an Ethernet network adapter transfers data frames between an Ethernet

15 network and a host computer system, it typically notifies the host processor of the completion of a

16 data frame transfer by generating an interrupt signal to the host processor. *Id.* Before the host

17 processor can interrupt its activity to process the data transfer, however, it must first save its

18 current environment or system parameters. *Id.* Thus, in the prior art, an interrupt latency (or time

19 lag) would occur between the time that the Ethernet network adapter has completed a data transfer

20 and the time when the host processor is able to respond to the interrupt signal, to the detriment of

21 transmission speed and system performance. *Id.* The degradation in performance due to interrupt

22 latency can be further compounded by various other conditions that may occur in normal operation

23 of the system, such as the transfer of multiple data frames. *Id.*

24   To reduce interrupt latency, the inventors of the '459 Patent suggested generating

25 various types of signals prior to the actual completion of the transfer of a data frame to or from a

26 buffer memory. *Id.* at ¶¶ 18–19. These include an early indication signal and an early interrupt

27 signal. *Id.* at ¶ 19; *see also* Cole Decl. Ex. 7 ('459 Patent), Abstract, col. 3–4, claims 5, 12, 13, 17,

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1   19, 21. Claim 1 of the '459 Patent discloses and claims an apparatus including threshold logic or

2   circuitry for generating an early indication signal after a determination that a certain amount of a

3   data frame has been transferred. *Id.* at 6:10–13; Fig. 2; Mitzenmacher Decl. ¶ 19. The early

4   indication signal may then cause an early interrupt signal to be generated to the host processor

5   during the transfer of that data frame, reducing the period of latency that would otherwise occur

6   after the transfer is complete. *Id.* at 6:13–15; Fig. 2; Mitzenmacher Decl. ¶ 19. Because the

7   adapter generates an interrupt signal to the host processor before the complete packet is

8   transferred, the '459 patented technology is also referred to as the "Early Interrupt" feature.

9   Mitzenmacher Decl. ¶ 18. The Early Interrupt technology provides many of the same advantages

10   in performance as does the Early Transmit technology, and also has the benefit of doing so

11   without the need for a faster and more expensive host or NIC processor. *Id.*

12   **D.   The '446 Patent**

13   United States Patent No. 6,526,446, entitled "Hardware only transmission control

14   protocol segmentation for a high performance network interface card," was filed on April 27, 1999

15   and issued to 3Com on February 25, 2003. Cole Decl. Ex. 8 ('446 Patent). Like the other 3Com

16   patents asserted in this case, the '446 Patent relates to data transmission in Ethernet network

17   adapters. Mitzenmacher Decl. ¶ 28. In particular, Claim 26 of the '446 Patent discloses and

18   claims a hardware-based method for segmenting large data frames into multiple pieces or

19   "segments" that can be transmitted using a network protocol. *Id.* at ¶ 67. As the Court previously

20   recognized, the maximum size of a frame to be transmitted may be limited (Dkt. No. 375 (Claim

21   Construction Order) at 19); in the case of the Ethernet protocol, that maximum size is 1518 bytes.

22   Mitzenmacher Decl. ¶ 29. The '446 Patent teaches an improved method for segmenting large

23   frames into Ethernet-sized segments in which a network controller first receives a descriptor signal

24   from the host indicating where the data to be transmitted is stored in the host memory. *Id.* at ¶ 30.

25   The adapter then uses segmentation logic to generate a "frame segment descriptor," which the

26   Court has previously construed to mean "a descriptor identifying where the corresponding

27   segment is in the host memory." *See* Dkt. No. 375 (Claim Construction Order) at 21. Finally, the

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1   adapter receives the segment from the host using "circuitry that downloads data corresponding to

2   the frame segment descriptor." *Id.* The goal is to increase transmission speed and to optimize

3   performance of network interfaces, again without the need for a faster and more expensive host or

4   NIC processor. *Id.*

5   **II.   Realtek's Infringing Products**

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17   The parties have agreed that the term "network interface adapter" means

"equipment between a computer and a network for enabling communication." Dkt. No. 327

18   (Revised Joint Claim Construction and Prehearing Statement Pursuant to Patent Local Rule 4-3,

19   filed March 10, 2006) (the "RJCCS"), at 6. It is undisputed that each of the accused Realtek

20   products is an integrated circuit that comprises such equipment and is, accordingly, a network

21   interface adapter under the agreed-upon definition of that term.

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23   [6]   *See* Mitzenmacher Decl. Ex. 9 (listing Fast Ethernet Products). Realtek's expert witness, Dr. Izhak Rubin, refers to these products in his Expert Report as the "Group I and II Products." Cole Decl. Ex. 9 (Rubin Report) ¶ 54.

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25   [7]   *See* Mitzenmacher Decl. Ex. 9 (listing Descriptor-Based Products). Dr. Rubin refers to these products in his Expert Report as the "Group II-V products." Rubin Report ¶ 54.

26   [8]   With respect to claim 1 of the '459 Patent, 3Com does not seek summary judgment concerning the   Products. In the context of the '459 Patent

27   only, the term "Descriptor-Based Products" used herein excludes the

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ARGUMENT

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I.   **Legal Standards**

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A.   **3Com is Entitled to Summary Judgment Based on Realtek's Admissions**

5   Summary judgment is appropriate when there is no genuine issue as to any material

6   fact and the moving party is entitled to judgment as a matter of law. FED. R. CIV. P. 56(c); *see*

7   *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 247–50 (1986); *Mitutoyo Corp. v. Cent.*

8   *Purchasing, LLC*, 499 F.3d 1284, 1289 (Fed. Cir. 2007) (upholding a finding of summary

9   judgment of patent infringement). The Federal Circuit has recognized that the law governing

10 summary judgment is well established and that summary judgment is as appropriate in a patent

11 case as it is in any other. *Desper Prods. v. QSound Labs.*, 157 F.3d 1325, 1332 (Fed. Cir. 1998),

12 citing *C.R. Bard, Inc. v. Advanced Cardiovascular, Inc.*, 911 F.2d 670, 672 (Fed. Cir. 1990); *see*

13 *also Rohm & Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997) ("[p]arties have

14 available in patent cases, however, discovery procedures, partial or complete summary judgment,

15 and evidentiary rules to narrow the issues for trial"); *Avia Group Int'l, Inc. v. L.A. Gear Cal., Inc.*,

16 853 F.2d 1557, 1561 (Fed. Cir. 1988). ("[S]ummary judgment is as appropriate in a patent case as

17 in any other.") A party requesting summary judgment may rely on pleadings, admissions, answers

18 to interrogatories and depositions to show the absence of a genuine issue of material fact. *Celotex*

19 *Corp. v. Catrett*, 477 U.S. 317, 323 (1986). "Summary judgment is appropriate if the pleadings,

20 depositions, answers to interrogatories and admissions on file, together with the affidavits, if any,

21 show that there is no genuine issue as to any material fact and that the moving party is entitled to a

22 judgment as a matter of law." *Hayden v. Redwoods Cmty. College Dist.*, Cv-05-01785, 2007 WL

23 61886, at *8 (N.D. Cal. 2007 Jan. 8, 2007); *see also Torres v. Cantine Torresella S.r.l.*, 808 F.2d

24 46, 49 (Fed. Cir. 1986) (upholding grant of summary judgment based on responses to requests for

25 admission); *Sarah Z. v. Menlo Park City Sch. Dist.*, Cv-06-4098, 2007 WL 1574569, at *8 (N.D.

26 Cal. May 30, 2007) (granting of summary judgment based on responses to requests for admission).

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B.   Standard for Finding Infringement

      1.   Direct Infringement

A defendant directly infringes a patent claim if it makes, uses, offers for sale, or sells within or imports into the United States a product that contains or practices each claim element. 35 U.S.C. § 271(a) (2004). With regard to 3Com's apparatus Claims in Issue (claim 21 of the '872 Patent and claim 1 of the '459 Patent), 3Com need not prove that the infringing capabilities of Realtek's accused products have, in fact, ever been used. As the Federal Circuit held in *Intel Corp. v. United States Int'l Trade Comm'n*, 946 F.2d 821 (Fed. Cir. 1991), "infringement of an apparatus claim is based solely on the presence of structural limitations and not functional limitations." *See also 3Com Corporation v. D-Link Systems, Inc.*, No. C 05-00098-VRW, slip op. at 18–19 (N.D. Cal. filed Dec. 18, 2006) (relying on *Intel* to reject D-Link's argument that its products could not literally infringe 3Com's apparatus claim because they lacked software drivers that actually utilized their infringing logic).

      2.   Inducement

In addition to direct infringement, a device may also infringe a patent indirectly. This can take the form of contributory infringement, 35 U.S.C. § 271(c) (2004), or inducement, 35 U.S.C. § 271(b) (2004). Under Section 271(b), "[w]hoever actively induces infringement of a patent shall be liable as an infringer." *Id.* With regard to 3Com's method Claims in Issue (claim 28 of the '094 Patent and claim 26 of the '446 Patent), inducement can be established by proof of direct infringement by the device's users, together with a showing of Realtek's intent to induce infringement. *See, e.g., Hewlett-Packard Co. v. Bausch & Lomb Inc.*, 909 F.2d 1464, 1469 (Fed. Cir. 1990) ("[P]roof of actual intent to cause the acts which constitute the infringement is a necessary prerequisite to finding active inducement."). 3Com may prove such intent through circumstantial evidence. *See Water Techs. v. Calco, Ltd.*, 850 F.2d 660, 668 (Fed. Cir. 1988) (noting that "circumstantial evidence may suffice" in proving intent under an inducement theory); *see also Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 1272 (Fed. Cir. 1986) (holding that "direct evidence of a fact is not necessary" and that "circumstantial evidence is not only

1   sufficient, but may also be more certain, satisfying and persuasive").

2   Moreover, to prove direct infringement, 3Com need not proffer evidence of

3   individual infringing acts by Realtek's customers. *See, e.g., Metabolite Labs. v. Lab. Corp. of*

4   *Am.*, 370 F.3d 1354, 1364 (Fed. Cir. 2004) ("To support the verdict, the record does not need to

5   contain direct evidence that every physician performed the [infringing method]."). Rather, "where

6   a plaintiff alleges inducement based on a defendant's customers as a class, broader theories of

7   liability are appropriate and the court may consider circumstantial evidence of direct

8   infringement." *Semiconductor Energy Lab. Co. v. Chi Mei Optoelectronics Corp.*, Cv-04-04675,

9   2007 WL 1793770, at *21 (N.D. Cal. June 19, 2007). 3Com can therefore meet its burden by

10   identifying a category of direct infringers, such as Realtek's customers or importers, and prove

11   direct infringement by circumstantial evidence concerning that class. *See Rackable Sys., Inc. v.*

12   *Super Micro Computer, Inc.*, Cv-05-3561, 2007 WL 1223807, *10 (N.D. Cal Apr. 25, 2007)

13   (citing *Dynacore Holdings Corp. v. U.S. Phillips Corp.*, 363 F.3d 1263, 1274–75 (Fed. Cir.

14   2004)).

15   **II.   Realtek's Infringement**

16   **A.   Realtek's Fast Ethernet Products and Descriptor-Based Products Infringe at**
17   **least Claim 21 of the '872 Patent and Claim 28 of the '094 Patent**

18   **1.   Realtek Has Admitted Infringement of Claim 21 of the '872 Patent**

19   Realtek admits that the Fast Ethernet Products and Descriptor-Based Products

20   contain each and every element of claim 21 of the '872 Patent. *See* Appendix B hereto. In

21   response to Requests for Admission served by 3Com, Realtek admitted that these products include

22   the buffer memory, data transfer circuitry, and medium access controller elements of this

23   apparatus claim. *See* Cole Decl. Ex. 10 (Realtek's RFA Responses) at Nos. 11, 29, 120 (admitting

24   that "each REALTEK ACCUSED PRODUCT[9] includes [each of these three elements], as claimed

25   in claim 21 of the '872 Patent"); *see also* Mitzenmacher Decl. ¶¶ 51–52, 55 & Ex. 3.

26   _____

27   [9]   The term "REALTEK ACCUSED PRODUCT," as defined by Realtek in its general
            objections and statements in its RFA Responses, includes each of the Fast Ethernet
28   Products and Descriptor-Based Products.

1   Realtek has further admitted that "each REALTEK ACCUSED PRODUCT" also

2   includes the required element of "logic, coupled to the buffer memory, which monitors the

3   transferring of data of a frame to the buffer memory to make a threshold determination of an

4   amount of data of the frame transferred to the buffer memory." Cole Decl. Ex. 10 (Realtek's RFA

5   Responses) at No. 73. Although Realtek subsequently purported to withdraw this admission by

6   serving amended RFA responses,[10] it has never sought leave to do so, as the Federal Rules plainly

7   require. *See* FED. R. CIV. P. 36(b) ("Any matter admitted under this rule is conclusively

8   established unless the court on motion permits withdrawal or amendment of the admission.").[11]

9   Thus, its original admission stands and this element of claim 21 is not in genuine dispute. *See*

10   Mitzenmacher Decl. ¶¶ 53–54.

11   The final element of claim 21 requires "logic, responsive to the threshold

12   determination … which initiates transmission of the frame ... prior to transfer of all of the data of

13   the frame to the buffer memory." Cole Decl. Ex. 4 ('872 Patent), claim 21. However, Dr. Rubin's

14   Expert Report makes clear that Realtek disputes this element only because it refers to the logic for

15   making a "threshold determination" recited in the previous element, which Dr. Rubin opines is

16   absent in Realtek's products. *See* Rubin Report ¶ 130 ("Because the required threshold

17   determination is not made in Realtek's controllers, the claimed means or logic responsive to the

18   threshold determination for initiating transmission of frame cannot be present in Realtek's

19   controllers."). Dr. Rubin's opinion simply ignores Realtek's prior admission that its products do,

20   in fact, contain the required logic for making a "threshold determination." His opinion concerning

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22   [10] Realtek served its purported amended responses in the middle of the night on August 20,
     2007, between sessions of the continued deposition of Jen-Che Tsai, its corporate designee
23   on technical hardware issues. *See* Cole Decl. Ex. 11 (Email from Yang to McCloskey).
     That deposition itself was the result of an order of this Court requiring Realtek to produce
24   its corporate witnesses in the United States for further deposition, after Realtek belatedly
     produced its hardware code, emails and other critical information. Dkt. No. 391 (Order,
25   dated Mar. 27, 2007).

26   [11] Realtek's failure to move this Court for leave to serve amended responses is all the more
     inexcusable in light of the fact that 3Com immediately objected to Realtek's purported
27   amendment, specifically citing the requirements of Rule 36(b) and informing Realtek that
     "3Com will rely on your original Responses and Objections unless and until instructed
28   otherwise by the court." Cole Decl. Ex. 12 (Letter from Konrad to Yang).

1   this element must therefore be disregarded and 3Com's showing that this element is present stands

2   unrebutted. *See* Mitzenmacher Decl. ¶¶ 56–57. Accordingly, 3Com is entitled to summary

3   judgment of infringement of claim 21 of the '872 Patent based upon Realtek's admission that the

4   Fast Ethernet Products and Descriptor-Based Products contain each and every element of the

5   claim.[12]

6   ### 2.   Realtek Has Admitted Its Fast Ethernet Products Are Capable of Practicing the Method of Claim 28 of the '094 Patent

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8   Claim 28 of the '094 Patent is a method claim containing three elements or steps.

9   *See* Appendix C hereto. Realtek has admitted that the Fast Ethernet Products are capable of

     practicing each step of the claimed method. First, Realtek admits that each of the REALTEK

10   ACCUSED PRODUCTS is "capable of transferring data of a frame, as claimed in claim 28 of the

11   '094 Patent." Cole Decl. Ex. 10 (Realtek's RFA Responses) at No. 35; *see also* Mitzenmacher

12   Decl. ¶ 60 & Ex. 4.

13   Second, Realtek has admitted that each of the Fast Ethernet Products is also

14   "capable of monitoring the transfer of the data of the frame . . . to make a threshold determination

15   of an amount of data of the frame transferred," as claimed in claim 28 of the '094 Patent. Cole

16   Decl. Ex. 10 (Realtek's RFA Responses) at No. 82; *see also* Mitzenmacher Decl. ¶ 61 & Ex. 4.

17   Although Realtek also purported to withdraw or amend this admission without leave of Court, that

18   effort is unavailing for the reasons set forth above.

19   Third, Realtek has admitted that "each REALTEK ACCUSED PRODUCT is

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21   ───────────────
     [12]   Should the Court, in its discretion, grant Realtek belated leave to withdraw or amend its
22   original RFA responses, 3Com seeks leave to address Realtek's revised position in further
     support of this motion. We understand that Realtek contends that the Fast Ethernet
23   Products do not infringe because

24   . *See, e.g.*, Cole Decl. Ex. 9 (Rubin Report) at ¶¶ 50, 76, 79, 122. As we
     are prepared to demonstrate in greater detail if necessary, this is a distinction without a
25   difference for these purposes, REDACTED

26   *See Elantech Devices Corp.*
     v. Synaptics, Inc., Cv-06-01839, 2007 WL 3256229, at *3–*4 (N.D. Cal. Nov. 5, 2007)
27   (noting that defendants cannot escape literal infringement by simply transforming the
     measured value).
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1   capable of initiating CSMA/CD transmission of the FRAME of data in [a] BUFFER

2   MEMORY . . . to a network TRANSCEIVER in response to [a] THRESHOLD

3   DETERMINATION . . . prior to transfer of all the data of the FRAME from the host system to the

4   BUFFER MEMORY . . . ." Cole Decl. Ex. 10 (Realtek's RFA Responses) at 102; *see also*

5   Mitzenmacher Decl. Ex. 4. Even accepting Realtek's purported withdrawal of this admission, this

6   element would only be in dispute because it refers to the making of a "threshold determination" as

7   described in the previous element, which Realtek also admitted but now improperly seeks to deny.

8   *See* Rubin Report ¶ 145 ("The missing steps for initiating transmission . . . is not present in

9   Realtek's 8139 and 8169 controllers for the same reasons as those stated above for the missing

10   means for monitoring."); *see also id.* at ¶ 130 ("Because the required threshold determination is

11   not made in Realtek's controllers, the claimed means or logic responsive to the threshold

12   determination for initiating transmission of frame cannot be present in Realtek's controllers.").[13]

13   Thus, there is no genuine dispute that the Fast Ethernet Products are capable of practicing the

14   method of claim 28 of the '094 Patent.

15   **3.   The Fast Ethernet Products Practice the Method of Claim 28 of the**
           '094 Patent Whenever They are Used with Drivers Implementing the
16   **Early Transmit Feature**

17   The Fast Ethernet Products include the circuitry covered by claim 21 of the '872

18   Patent.

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27   [13]   Again, Realtek's argument for avoiding infringement apparently rests entirely on its
           belated theory that claim 28 is somehow limited to

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1   Software drivers designed to work with Microsoft Windows operating systems

2   typically include an executable driver file or files, which are compiled from source code, and a

3   separate driver information file, or .INF file. *Id.* The .INF file controls which options will be

4   displayed to users in the Windows Device Manager dialog box, as well as the default values

5   associated with those options. *Id.*

6   Realtek has provided numerous software drivers for use with the Fast Ethernet

7   Products during the course of its infringement, with different default settings and threshold values.

8   For example, Version 3.97 of its Windows driver, under a configuration typical for these products,

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25   Moreover, Dr. Mitzenmacher tested several products incorporating Fast Ethernet

26   Products with the drivers provided with those products, and found that the "Optimal Performance"

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28   [14]   The threshold value is expressed in 32-byte units. Mitzenmacher Decl. Ex. 4.

1   property was set to "enable" by default in several of the drivers tested. Mitzenmacher Decl.

2   ¶¶ 73–80 & Ex. 7; *see also* Cole Decl. Ex. 13 (Hsu Tr.) at 212. Each Fast Ethernet Product tested

3   was therefore configured by default to initiate early transmission, thereby falling within the scope

4   of claim 28 of the '094 Patent.

5   **4.**   **Realtek Induces End-Users to Practice the Methods of Claim 28 of the**
                      '094 Patent in the United States

6

7   Realtek has actively induced infringement of claim 28 of the '094 Patent in the

8   United States. To begin with, there is no genuine dispute that Realtek sells or offers to sell the

9   Fast Ethernet Products in the United States. *See* Cole Decl. Ex. 3 (Tsai, B. Tr.) at III:50–51.

Moreover, as demonstrated above, Realtek has provided and continues to provide software drivers

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11 for use with the Fast Ethernet Products that will, by default, cause the practice of the patented

12 method. "[A]n adapter infringes if it includes [the claimed logic], regardless whether such logic is

13 enabled or used." *D-Link*, slip op. at 20. Here, the infringing method is activated by default in

14 numerous drivers supplied by Realtek.

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18   Courts have frequently held that evidence of sales of a product, along with

19 instructions or manuals teaching the infringing method, will suffice to show direct infringement by

20 customers. *See, e.g., Semiconductor Energy*, 2007 WL 1793770, at *21 (quoting *Moleculon*, 793

21 F.2d at 1272 (""[C]ircumstantial evidence of extensive puzzle sales, dissemination of an

22 instruction sheet teaching the method of restoring the preselected pattern with each puzzle, and the

23 availability of a solution booklet on how to solve the puzzle' were sufficient to meet the plaintiff's

24 burden of showing infringement by purchasers of the infringing puzzles under section 271(b).")).

25 In this case, it is unnecessary for 3Com to show that Realtek provided instructions for use of the

26 device in an infringing manner, since the ordinary or default use of the device with the driver with

27 which it is supplied will necessarily result in infringement.[15] For this reason alone, there can be no

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28 [15]   Evidence that shows that a device infringes a method when used in its default
configuration is especially persuasive circumstantial evidence. *See Golden Blount, Inc. v.*

1   genuine issue of fact that Realtek has intentionally and actively induced the practice of the

2   patented method in the United States, and 3Com is accordingly entitled to summary judgment of

3   infringement of claim 28 of the '094 Patent.

   B.   Realtek's Fast Ethernet Products Infringe Claim 1 of the '459 Patent

4

5   The apparatus claimed in claim 1 of the '459 Patent includes four structural

6   elements. Realtek admits that each of the Fast Ethernet Products and Descriptor Based Products

7   includes three of these elements. *See* Appendix D; Cole Decl. Ex. 10 (Realtek's RFA Responses)

8   at Nos. 6, 22, 113 (admitting to the presence of the buffer memory, network interface logic and

9   host interface logic in each of the Fast Ethernet Products and Descriptor-Based Products); *see also*

10 Mitzenmacher Decl. ¶¶ 39–42. The only disputed element concerns the required "threshold

11 logic," which includes three sub-elements: a counter, an alterable storage location, and means for

12 comparing the two and generating an indication signal. *See* '459 Patent 42:59–68. As we

13 demonstrate below, the Fast Ethernet Products and Descriptor-Based Products include each of

14 these claimed sub-elements.

   1.   Counter

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16   The first is "a counter, coupled to the buffer memory, for counting the amount of

17 data transferred to or from the buffer memory." Realtek admits that each of the Fast Ethernet

18 Products includes this element. *See* Appendix D; Cole Decl. Ex. 10 (Realtek's RFA Responses) at

19 No. 47.

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26 *Robert H. Peterson Co.*, 438 F.3d 1354, 1363 (Fed. Cir. 2006) (affirming finding of direct
    infringement by customers on the grounds that the "instructions packaged with each device
    teach the infringing configuration and nothing in the record suggests that . . . any end-user
27 ignored the instructions or assembled the burners in a manner contrary to the instructions
    so as to form a non-infringing configuration.").

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5   **2.   Alterable Storage Location**

6   The second sub-element of the claimed threshold logic is an "alterable storage

7 location containing a threshold value." Realtek admits that each of the Fast Ethernet Products

8 includes this element. *See* Appendix D; Cole Decl. Ex. 10 (Realtek's RFA Responses) at No. 55.

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18   **3.   Means for Comparing and Generating**

19   The third and final sub-element of the threshold logic is "means for comparing the

20 counter to the threshold value in the alterable storage location and generating an indication signal

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22 [16] To the extent that the Court feels it necessary to engage in further claim construction to
determine whether the words "counting the amount of data," as used in the '459 Patent,

23 should take their ordinary English meaning and do not specify any particular unit of
measurement, the Court is free to do so in connection with this motion. *See Markman v.*

24 *Westview Instruments, Inc.*, 52 F.3d 967 982 (Fed. Cir. 1995) ("[Pronouncing the meaning
of the claim language] can be accomplished by the court in framing its charge to the jury,

25 but may also be done in the context of dispositive motions such as those seeking judgment
as a matter of law."); *see also Am. Permahedge, Inc. v. Barcana, Inc.*, 105 F.3d 1441,

26 1444–45 (Fed. Cir. 1997) (using a motion for summary judgment as an appropriate forum
for resolving the disputed construction of a claim term); *Berger v. Rossignol Ski Co., Inc.*,

27 No. Cv-05-02523-CRB, 2006 WL 708943, at *2 (N.D. Cal. Mar. 21, 2006) (citing
Markman, 52 F.3d at 981) ("[T]he court has discretion to construe claims, if needed, in the

28 context of a summary judgment motion.").

1 to the host processor responsive to a comparison of the counter and the alterable storage location."

2 Mitzenmacher Decl. ¶¶ 47–48 & Ex. 2. Because this element is a "means-plus-function" element

3 under 35 U.S.C. § 112 ¶ 6, the claim covers comparing and generating structures disclosed in the

4 specification and their equivalents. Dkt. No. 375 (Order on Claim Construction) at 18–19. Both

5 Realtek and 3Com have identified numerous bit comparators, or examples of threshold logic based

6 on bit comparators, disclosed in the '459 Patent as corresponding to the claimed "means." *See*

7 Dkt. No. 338 (Amended Final Joint Claim Construction and Prehearing Statement, filed March 31,

8 2006) 52–53. All of the bit comparators disclosed in the specification generate an output when the

9 value of one multi-bit input is equal to or greater than the value of the other multi-bit input. *See*

10 Mitzenmacher Decl. ¶¶ 47–48 & Ex. 2. Returning to the claim language, the question is whether

11 the Fast Ethernet Products also include a bit comparator for comparing the counter to the threshold

12 value and generating an indication signal.

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5   The various components of this threshold logic are capable of allowing the host

6   processor to respond to the indication signal *during* the transferring of the data frame.

7   Mitzenmacher Decl. Ex. 2. If the threshold value is less than the number of bytes of the frame

8   being transferred, an indication signal will be generated when that threshold is reached as the data

9   frame is transferred. *Id.* And regardless of the actual threshold value used in any particular

10 implementation, the Fast Ethernet Products and Descriptor-Based Products always include

11 threshold logic capable of its intended purpose. *Id.*

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19   C.   **Realtek's Descriptor-Based Products Infringe Apparatus Claim 21 of the '872**
                Patent and Apparatus Claim 1 of the '459 Patent
20

21   It is undisputed that Realtek's Descriptor-Based Products include all the infringing

22 circuitry included in the Fast Ethernet Products. Rubin Report at ¶ 54. Moreover, unlike the Fast

23 Ethernet Products,

24   . *Id.* Realtek will no doubt contend that the Descriptor-Based Products do not infringe

25 the '872 or '459 Patents because the drivers supplied with these products do not utilize the

26 infringing circuitry. Assuming, *arguendo*, the factual truth of such an assertion, Realtek cannot

27 ignore the well-established legal principle that an apparatus claim is infringed as soon as a device

28 containing all the elements of the claim is sold, offered for sale or imported into the United States;

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1   no actual use is required. *See D-Link*, slip op. at 20 (citing *Fantasy Sports Props. v.*

2   *Sportsline.com, Inc.*, 287 F.3d 1108 (Fed. Cir. 2002)). Thus, there is no genuine dispute that the

3   Descriptor-Based Products infringe at least claim 21 of the '872 Patent and claim 1 of the '459

4   Patent, and summary judgment is appropriate as a matter of law.

5   **D.**   **Realtek's Descriptor-Based Products Infringe Claim 26 of the '446 Patent**

6   **1.**   **Each of the Descriptor-Based Products is Capable of Practicing the Method of Claim 26**

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8   Claim 26 of the '446 Patent is a method claim comprising three steps for achieving

9   the patented TCP frame segmentations. *See* Appendix E. Realtek admits that each of the

10 Descriptor-Based Products is capable of practicing the first step, namely "receiving from a host

11 device a descriptor signal which corresponds to data stored within memory," subject to its

12 objection to the Court's construction of the term "descriptor signal which corresponds to data

13 stored within memory" as "a signal indicating where the corresponding data is in host memory."

14 *Id.*; Cole Decl. Ex. 10 (Realtek RFA Responses) at No. 146; *see also* Dkt. No. 375 (Claim

15 Construction Order) at 22; Mitzenmacher Decl. ¶¶ 68–70 & Ex. 5. Nor does Realtek dispute that

16 the Descriptor-Based Products also employ a data download circuit for receiving data from the

17 host, as the third step requires. Rather, Realtek denies that its products perform this step only on

18 the grounds that "Realtek products cannot download data corresponding to a frame segment

19 descriptor because no such descriptor is produced in Realtek products." Rubin Report ¶ 162.

20 Thus, the only claim element actually in dispute is the second step, namely "using said descriptor

21 signal to generate a frame segment descriptor using a segmentation circuit." Rubin Report ¶ 162.

22   The issue here is

23   constitutes

24 the required "frame segment descriptor" under the Court's construction. There is no genuine

25 issue concerning the functionality of the Descriptor-Based Products.

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6 **2.   The Descriptor-Based Products Practice the Method of Claim 26 of the**

7   **'446 Patent Whenever They are Used with Drivers Having the Offload TCP Largesend Feature Enabled**

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14   Dr. Mitzenmacher found that the same driver came

15 packaged with the Zonet ZEN3301E product, incorporating an RTL8169SC network controller,

16 that he personally tested. *See* Mitzenmacher Decl. Ex. 7.

17   Indeed, no driver tested by Dr. Mitzenmacher, and no driver identified by Realtek,

18 sets the Offload TCP_Largesend feature to "disable" by default. Nor has Realtek put forth any

19 evidence that would tend to show that users do, in fact, disable that feature in the Descriptor-Based

20 Products using the Device Manager. *See* Mitzenmacher Decl ¶ 79. To the contrary, Realtek's

21 corporate designee on technical software issues testified at deposition that Realtek believes that a

22 typical user will *not* attempt to change the products' default properties using the Device Manager.

23 Cole Decl. Ex. 13 (Hsu Tr.) at 58–59. Thus, Realtek expects and intends for such customers to

24 use the infringing feature. Because all Descriptor-Based Products practice the method of claim 26

25 by default, and it is undisputed that Realtek imports and sell those products into the United States,

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[17]   *Id.*

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1   there can be no genuine issue that Realtek actively induces the practice of this patented method in

2   the United States.

3   ## CONCLUSION

4   For the foregoing reasons, 3Com respectfully requests that the Court enter an order

5   granting 3Com's Motion for Summary Judgment of Infringement of claim 21 of U.S. Patent No.

6   5,434,872; claim 28 of U.S. Patent No. 5,732,094; claim 1 of U.S. Patent No. 5,307,459; and

7   claim 26 of U.S. Patent No. 6,526,446.

8

9   Dated: November 16, 2007

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11   SIMPSON THACHER & BARTLETT LLP

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13   By /s/ Henry B. Gutman
                                           Henry B. Gutman
14   Attorneys for 3Com Corporation

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APPENDIX A
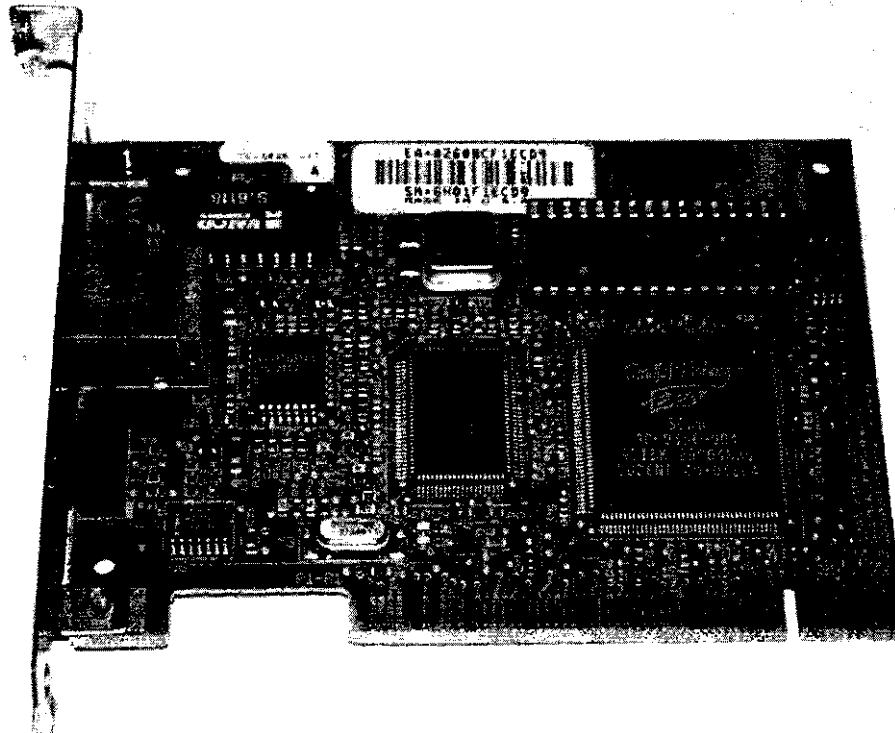
Source: Wikipedia, *Fast Ethernet*, http://en.wikipedia.org/wiki/Fast_Ethernet (as of Nov. 16, 2007).

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APPENDIX B

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Claim 21 of the '872 Patent recites:	Realtek's position on whether its Fast Ethernet Products include this claim element
A network interface adapter for a carrier sense, multiple access network with collision detection (CSMA/CD), comprising:	
buffer memory which stores data of frames composed by a host computer for transmission on the network;	Admitted. RFA Resp. No. 11.
data transfer circuitry, having a host system interface, for transferring data of frames to the buffer memory;	Admitted. RFA Resp. No. 29.
logic, coupled to the buffer memory, which monitors the transferring of data of a frame to the buffer memory to make a threshold determination of an amount of data of the frame transferred to the buffer memory;	Admitted (subsequently withdrawn without leave). RFA Resp. No. 73.
a medium access controller for the CSMA/CD network coupled to the buffer memory for managing transmission of frames of data from the buffer memory to the network; and	Admitted. RFA Resp. No. 120.
logic, responsive to the threshold determination of the logic which monitors the transferring of data to the buffer memory, which initiates transmission of the frame from the buffer memory to the medium access controller prior to transfer of all of the data of the frame to the buffer memory, including logic which initiates transmission of the frame when no complete frame of data is present in the buffer memory.	Disputed only on the grounds that the "logic . . . which monitors the transferring of data" element is disputed.

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APPENDIX C

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Claim 28 of the '094 Patent Recites:	Realtek's position on whether its Fast Ethernet Products practice this claim step
A method of controlling communication of data from a host system to a network transceiver coupled to a carrier sense, multiple access with collision detection (CSMA/CD) computer network, comprising:	
transferring data of a frame from the host system to a buffer memory;	Admitted. RFA Resp.Nos. 20, 35.
monitoring the transfer of the data of the frame to the buffer memory to make a threshold determination on an amount of data of the frame transferred to the buffer memory; and	Admitted (subsequently withdrawn without leave). RFA Resp.No. 82.
initiating CSMA/CD transmission of the frame of data in the buffer memory to the network transceiver in response to the threshold determination prior to transfer of all the data of the frame from the host system to the buffer memory.	Admitted (subsequently disputed only on the grounds that the "monitoring the transfer of the data" element is disputed.). RFA Resp.No. 102.

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APPENDIX D

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Claim 1 of the '459 Patent Recites:	Realtek's position on whether its Fast Ethernet Products include this claim element
An apparatus for transferring a data frame between a network transceiver, coupled with a network, and a host system which includes a host processor and host memory, the apparatus generating an indication signal to the host processor responsive to the transfer of the data frame, with the host processor responding to the indication signal after a period of time, comprising:	
a buffer memory for storing the data frame;	Admitted. RFA Resp. No. 6.
network interface logic for transferring the data frame between the network transceiver and the buffer memory;	Admitted. RFA Resp. No. 113.
host interface logic for transferring the data frame between the host system and the buffer memory;	Admitted. RFA Resp. No. 22.
threshold logic for allowing the period of time for the host processor to respond to the indication signal to occur during the transferring of the data frame, wherein the threshold logic includes,	Disputed.
a counter, coupled to the buffer memory, for counting the amount of data transferred to or from the buffer memory;	Admitted (subsequently withdrawn without leave). RFA Resp. No. 47.
an alterable storage location containing a threshold value; and	Admitted (subsequently withdrawn without leave). RFA Resp. No. 55.
means for comparing the counter to the threshold value in the alterable storage location and generating an indication signal to the host processor responsive to a comparison of the counter and the alterable storage location.	Disputed

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APPENDIX E

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Claim 26 of the '446 Patent recites: A method for implementing transmission control protocol segmentation within hardware, said method comprising the hardware implemented steps of:"	Realtek's position on whether its Descriptor-Based Products practice this claim step
(a) receiving from a host device a descriptor signal which corresponds to data stored within memory;	Admitted. RFA Resp. No. 146.
(b) using said descriptor signal to generate a frame segment descriptor using a segmentation circuit; and	Disputed.
(c) receiving said data from said memory using a data download circuit.	Disputed only to the extent step (b) is disputed.

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